

AMENDMENTS TO THE CLAIMS

1-9. (Canceled)

10. (Currently Amended) An IC chip for reading an image ~~as claimed in claim 9~~,
further comprising:

a plurality of image reading photoelectric conversion elements divided into a
plurality of groups;

a read selection circuit for sequentially selecting the plurality of image reading
photoelectric conversion elements and reading a photoelectric conversion signal from
the selected image reading photoelectric conversion element;

a plurality of signal output lines by way of which the photoelectric conversion
signal is transmitted, each of the plurality of signal output lines being independently
provided from each other and corresponding to each of the plurality of groups;

an output circuit;

a signal output line switching circuit connected between the plurality of signal
output lines and the output circuit for sequentially selecting among the plurality of signal
output lines to lead the photoelectric conversion signal transmitted through the selected
signal output line to the output circuit;

a logic circuit for controlling the signal output line switching circuit to switch from
a signal output line currently selected to a signal output line corresponding to the next
group after a last photoelectric conversion signal in the currently selected group has
been read but before a first photoelectric conversion signal in the next group is read;

and

an initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element,

wherein the read selection circuit reads the photoelectric conversion signal from the selected image reading photoelectric conversion element during one period of a clock signal, and

wherein the initialization selection circuit initializes the selected image reading photoelectric conversion element during a last half of said one period and during a first half of a next period of the clock signal.

11. (Previously Presented) An IC chip for reading an image, comprising:

a plurality of image reading photoelectric conversion elements divided into a plurality of first groups;

a first read selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and reading a first photoelectric conversion signal from the selected image reading photoelectric conversion element;

a plurality of first signal output lines by way of which the first photoelectric conversion signal is transmitted from the plurality of image reading photoelectric conversion elements, each of the plurality of first signal output lines being independently provided from each other and corresponding to each of the plurality of first groups;

a plurality of dummy photoelectric conversion elements divided into a plurality of second groups, each of the plurality of dummy photoelectric conversion elements shielded from light and forming an exclusive pair with one of the plurality of image

reading photoelectric conversion elements by being arranged in close proximity thereto;

a second read selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and reading a second photoelectric conversion signal from the selected dummy photoelectric conversion element;

a plurality of second signal output lines by way of which the second photoelectric conversion signal is transmitted from the plurality of dummy photoelectric conversion elements, each of the plurality of second signal output lines being independently provided from each other and corresponding to each of the plurality of second groups;

an output circuit;

a signal output line switching circuit connected between the plurality of first signal output lines and the output circuit for sequentially selecting among the plurality of first signal output lines to lead the first photoelectric conversion signal transmitted through the selected first signal output line to the output circuit and also connected between the plurality of second signal output lines and the output circuit for sequentially selecting among the plurality of second signal output lines to lead the second photoelectric conversion signal transmitted through the selected second signal output line to the output circuit; and

a logic circuit for controlling the signal output line switching circuit to switch from a first signal output line currently selected to a first signal output line corresponding to the first group subsequently selected and from a second signal output line currently selected to a second signal output line corresponding to the second group subsequently selected, after a last image reading photoelectric conversion element in a first group currently selected and a last dummy photoelectric conversion element in a second

group currently selected have been read but before a first image reading photoelectric conversion element in a first group subsequently selected and a first dummy photoelectric conversion element in a second group subsequently selected are read.

12. (Previously Presented) An IC chip for reading an image as claimed in claim 11, further comprising:

a first initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element; and

a second initialization selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and initializing the selected dummy photoelectric conversion element,

wherein the first read selection circuit reads the first photoelectric conversion signal from the selected image reading photoelectric conversion element during one period of a clock signal, and the first initialization selection circuit initializes the selected image reading photoelectric conversion element during a last half of said one period and during a first half of a next period of the clock signal, and

wherein the second read selection circuit reads the second photoelectric conversion signal from a dummy photoelectric conversion element that forms a pair with the selected image reading photoelectric conversion element during said one period, and the second initialization selection circuit initializes the dummy photoelectric conversion element that forms a pair with the selected image reading photoelectric conversion element during a full period prior to said one period of the clock signal.

13. (Currently Amended) An image reading device comprising:

one or more IC chips for reading an image, each comprising:

a plurality of image reading photoelectric conversion elements divided into a plurality of groups;

a read selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and reading a photoelectric conversion signal from the selected image reading photoelectric conversion element;

a plurality of signal output lines by way of which the photoelectric conversion signal is transmitted, each of the plurality of signal output lines being independently provided from each other and corresponding to each of the plurality of groups;

an output circuit;

a signal output line switching circuit connected between the plurality of signal output lines and the output circuit for sequentially selecting among the plurality of signal output lines to lead the photoelectric conversion signal transmitted through the selected output line to the output circuit;

a clock input terminal by way of which a clock signal is fed in;

a start trigger signal input terminal by way of which a start trigger signal for sequentially scanning an image being read is fed in from an IC chip for reading an image in a previous stage; and

a start trigger signal output terminal by way of which a start trigger signal for sequentially scanning the image being read is fed out to an IC

chip for reading an image in a following stage;

a logic circuit for controlling the signal output line switching circuit to switch from a signal output line currently selected to a signal output line corresponding to a next group after a last photoelectric conversion signal in the currently selected group has been read but before a first photoelectric conversion signal in the next group is read[[,]] ; and

an initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element,

wherein the read selection circuit reads the photoelectric conversion signal from the selected image reading photoelectric conversion element during one period of a clock signal, and

wherein the initialization selection circuit initializes the selected image reading photoelectric conversion element during a last half of said one period and during a first half of a next period of the clock signal,

wherein the image reading device further comprises an A/D converter for converting a signal output from the output circuit of said one or more IC chips into a digital signal.

14. (Previously Presented) An image reading device comprising:

one or more IC chips for reading an image, each comprising:

a plurality of image reading photoelectric conversion elements divided into a plurality of first groups;

a first read selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and reading a first photoelectric conversion signal from the selected image reading photoelectric conversion element;

a plurality of first signal output lines by way of which the first photoelectric conversion signal is transmitted from the plurality of image reading photoelectric conversion elements, each of the plurality of first signal output lines being independently provided from each other and corresponding to each of the plurality of first groups;

a plurality of dummy photoelectric conversion elements divided into a plurality of second groups, each of the plurality of dummy photoelectric conversion elements shielded from light and forming an exclusive pair with one of the plurality of image reading photoelectric conversion elements by being arranged in close proximity thereto;

a second read selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and reading a second photoelectric conversion signal from the selected dummy photoelectric conversion element;

a plurality of second signal output lines by way of which the second photoelectric conversion signal is transmitted from the plurality of dummy photoelectric conversion elements, each of the plurality of second signal output lines being independently provided from each other and corresponding to each of the plurality of second groups;

an output circuit;

a signal output line switching circuit connected between the plurality of first signal output lines and the output circuit for sequentially selecting among the plurality of first signal output lines to lead the first photoelectric conversion signal transmitted through the selected first signal output line to the output circuit and also connected between the plurality of second signal output lines and the output circuit for sequentially selecting among the plurality of second signal output lines to lead the second signal output line to the output circuit; and

a clock input terminal by way of which a clock signal is fed in;

a start trigger signal input terminal by way of which a start trigger signal for sequentially scanning an image being read is fed in from an IC chip for reading an image in a previous stage;

a start trigger signal output terminal by way of which a start trigger signal for sequentially scanning the image being read is fed out to an IC chip for reading an image in a following stage; and

a logic circuit for controlling the signal output line switching circuit to switch from a first signal output line currently selected to a first signal output line corresponding to the first group subsequently selected and from a second signal output line currently selected to a second signal output line corresponding to the second group subsequently selected, after a last image reading photoelectric conversion element in a first group currently selected and a last dummy photoelectric conversion element in a second group currently selected have been read but before a first image reading photoelectric conversion element in a first group subsequently selected and a first dummy photoelectric conversion element

in a second group subsequently selected are read,
wherein the image reading device further comprises an A/D converter for
converting a signal output from the output circuit of said one or more IC chips into a
digital signal.